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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/650,726	08/30/2000	Denis Miglianico	Q60462	1213

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EXAMINER

DAY, HERNG DER

ART UNIT	PAPER NUMBER
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2128

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/650,726

Applicant(s)

MIGLIANICO, DENIS

Examiner

Herng-der Day

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This communication is in response to Applicant's Amendment ("Amendment") and RCE to Office Action dated September 13, 2004, and November 12, 2004, mailed October 22, 2004, and entered December 1, 2004.

1-1. Claims 1 and 5 have been amended. Claim 4 has been cancelled. Claims 1-3 and 5-11 are pending.

1-2. Claims 1-3 and 5-11 have been examined and rejected.

Specification

2. The disclosure is objected to because of the following informalities:

Appropriate correction is required.

2-1. It appears that "(IGPT)", as described in line 15 of page 1, should be "(IGBT)".

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 11 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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4-1. Claim 11 claims an installation for testing electronic units for fitting to a rail vehicle or to an electric vehicle, the installation comprising at least one apparatus according to claim 5.

However, no details regarding the installation have been disclosed in the specification. In other words, no other means or element is related to the claimed installation other than the apparatus recited in claim 5. Therefore, without undue experimentation, it is unclear for one skilled in the art how to make and/or use the installation.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6-1. Claim 7 recites the limitation “said some of said output signals” in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim. For the purpose of claim examination, the Examiner will presume that “said some of said output signals” as described in claim 7 refers to “said at least one of said output signals”.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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8. Claims 1-3, 5-7, and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hanselmann, "Real-Time Simulation Replaces Test Drives", Test and Measurement World, February 15, 1996, pages 35-36, 38, 40.

8-1. Regarding claim 1, Hanselmann discloses a method of testing the operation of an electronic unit (electronic control unit, page 35, FIGURE 1) by stimulating said unit with simulated input signals to said unit, the method comprising:

processing at least one output signal from said unit at a first frequency in response to said simulated input signals (Torque Command or Pressure Sensors output, page 35, FIGURE 1);

storing values of parameters corresponding to said processed signals (records time histories on the DSP, page 38, center column, last paragraph); and

accessing said stored parameter values (upload them to the MATLAB workspace, page 38, center column, last paragraph) at a second frequency which is slower than said first frequency and is compatible with an operating frequency of a microprocessor that generates said simulated input signals (DSP generate signals much faster than the vehicle simulation, page 36, right column, paragraph 3).

8-2. Regarding claim 2, Hanselmann further discloses said parameter values are representative of switching instants of logic signals generated by said unit (Torque Command, page 35, FIGURE 1).

8-3. Regarding claim 3, Hanselmann further discloses said parameter values are an image of said switching instants, of the duration during which a logic variable has a predetermined value, and/or the mean value of a logic variable over a predetermined period (postprocessing, page 38, right column, paragraph 2).

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8-4. Regarding claim 5, Hanselmann discloses an apparatus for testing the operation of an electronic unit (electronic control unit, page 35, FIGURE 1) by simulation, said unit generating logic signals at specific instants, said apparatus comprising:

a simulator which comprises at least one microprocessor sending input simulation signals to said unit and receiving output signals from said unit in response to said input simulation signals (Simulator, page 35, FIGURE 1);

at least one programmable logic circuit which receives at least one of said output signals, said logic circuit generating, at a first frequency, parameter values corresponding to the signals received by said logic circuit (DSP generate signals much faster than the vehicle simulation, page 36, right column, paragraph 3); and

a storing circuit which stores said parameter values (records time histories on the DSP, page 38, center column, last paragraph), wherein said microprocessor accesses said stored parameter values at a second frequency which slower than said first frequency and is compatible with an operating frequency of said microprocessor (upload them to the MATLAB workspace, page 38, center column, last paragraph).

8-5. Regarding claim 6, Hanselmann further discloses comprising at least one second programmable logic circuit which sends in real time simulation signals to said unit on the basis of reference signals previously issued by said microprocessor (DDS board contains its own DSPs, page 36, right column, paragraph 3).

8-6. Regarding claim 7, Hanselmann further discloses said programmable logic circuit which receives said some of said output signals and said second programmable logic circuit which

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sends simulation signals to said unit are implemented as a single electronic circuit (DDS board, page 36, right column, paragraph 3).

8-7. Regarding claim 9, Hanselmann further discloses said simulator further comprises at least one of:

an analog-to-digital converter which forward digital signals representative of analog signals generated by said unit to said microprocessor, and a digital-to-analog converter which forwards analog simulation signals based on digital signals generated by said microprocessor to said unit (digital-to-analog converter, page 36, right column, paragraph 2).

8-8. Regarding claim 10, Hanselmann further discloses at least one of said programmable logic circuit and said second programmable logic circuit is programmed as a function of the type and/or intended use of said unit (Generating wheel-speed signal, page 36, right column, paragraph 4).

8-9. Regarding claim 11, Hanselmann further discloses an installation for testing electronic units for fitting to a rail vehicle or to an electric vehicle, the installation comprising at least one apparatus according to claim 5 (test bench, page 36, FIGURE 2).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanselmann, “Real-Time Simulation Replaces Test Drives”, Test and Measurement World, February 15, 1996, pages 35-36, 38, 40, in view of Turner, U.S. Patent 6,269,020 B1 issued July 31, 2001, and filed February 5, 1999.

10-1. Regarding claim 8, Hanselmann fails to disclose at least one of said programmable logic circuit and said second programmable logic circuit is of the field programmable gate array type.

Turner discloses, as shown in FIG. 1, a processing unit incorporates a programmable logic device and the processing unit may be a DSP (column 1, lines 40-60). Turner further discloses, “Programmable logic devices (sometimes referred to as a PALs, PLAs, FPLAs, PLDs, EPLDs, EEPLDs, LCAs, or FPGA), are well-known integrated circuits that provide the advantages of fixed integrated circuits with the flexibility of custom integrated circuits. Such devices allow a user to electrically program standard, off-the-shelf logic elements to meet a user’s specific needs” (column 1, lines 22-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Hanselmann to incorporate the teachings of Turner to obtain the invention as specified in claim 8 because FPGA is well-known and allows a user to electrically program standard, off-the-shelf logic elements to meet a user’s specific needs.

Applicant’s Arguments

11. Applicant argues the following:

(1) “Applicant herein amends claim 1 to remove the alleged nested apparatus claim from the preamble of claim 1” (page 6, last third paragraph, Amendment).

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(2) "With respect to claim 1, Nakano et al. fails to teach or suggest at least the processing of output signals generated from an electronic device under test at a first frequency in response to simulated input signals and the retrieval of the stored processing results at a second frequency, where the second frequency is slower than the first frequency" (page 7, paragraph 2, Amendment).

(3) "Hanselmann fails to teach or suggest at least the circuit generating parameters, at a first frequency, and a microprocessor that accessed the stored parameters at a second frequency that is slower than the first frequency" (page 9, paragraph 3, Amendment).

Response to Arguments

12. Applicant's arguments have been fully considered.

12-1. Applicant's argument (1) is persuasive. The rejection of claim 1 under 35 U.S.C. 112, second paragraph, in the Office Action dated September 13, 2004, has been withdrawn.

12-2. Applicant's arguments (2) and (3) are moot in view of the new ground(s) of rejection. The rejections of claims 1-11 under 35 U.S.C. 102(b) and 103(a) in the Office Action dated September 13, 2004, have been withdrawn.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Herng-der Day whose telephone number is (571) 272-3777. The Examiner can normally be reached on 9:00 - 17:30.

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If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Jean R. Homere can be reached on (571) 272-3780. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Herng-der Day *H.D.*
January 31, 2005

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